DOCUMENT RESUME

ED 302 340 PS 017 720

AUTHOR Howard, Esther M.; Correro, Gloria C.
TITLE An Evaluation of the Physical Development of Kindergarten Students in Mississippi.
SPONS AGENCY Mississippi State Dept. of Education, Jackson.
PUB DATE Nov 88
NOTE 14p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (17th, Louisville, KY, November 9, 1988).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Improvement; *Educational Needs; Kindergarten; *Kindergarten Children; *Physical Development; Primary Education; Program Evaluation; State Programs
IDENTIFIERS *Mississippi

ABSTRACT

The purpose of this phase of the evaluation of the Mississippi Kindergarten Program (MKP) was to determine if 1987-88 kindergarten students made significant progress toward the attainment of motor skills normally performed by 4-, 5-, and 6-year-old children. A secondary purpose was to determine if the program enhanced physical growth among 5-year-olds. A total of 24 school districts were randomly selected to administer Mississippi Physical Coordination Inventory (MPCI) pretests and posttests to approximately 5,000 kindergarten students. Findings suggest that the MKP is structured around an atmosphere that provides for the development of physical coordination. However, many of Mississippi's young children cannot accomplish motor activities common to 4-, 5-, and 6-year-olds. Approximately 17 percent of the kindergarten children could not perform 4-year skills, 33 percent could not perform 5-year skills, and 50 percent could not perform 6-year skills. It is concluded that the percentages of children who do not master age-appropriate physical motor activities remain a cause of great concern. Recommendations for improving the situation are offered. (RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED302340

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

An Evaluation of the Physical Development of Kindergarten Students in Mississippi

Esther M. Howard

and

Gloria C. Correro

Mississippi State University

Research funded by

Mississippi State Department of Education

Paper Presented at the Mid-South Educational Research Association Annual Meeting, Louisville, KY, November, 1988.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Pam Boyd
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PS 017720

The enactment of Section 26 of the Mississippi Educational Reform Act of 1982 mandated the creation of the Mississippi Early Childhood Grant-In-Aid (Kindergarten) Program (ECGIA). In 1985, 108 Mississippi school districts applied for and were granted aid to implement pilot kindergarten programs. Approximately 5,000 children participated in the pilot year program. By the end of the 1986-87 school year, all of Mississippi's school districts were participating by enrolling more than 30,000 children in the first year of full implementation. This 1987-88 school year, the number of children enrolled in Mississippi public school kindergartens increased to 37,568. The purpose of this report is to provide an evaluative analysis of the effectiveness of the kindergarten in the area of physical coordination and body mastery.

One of the Mississippi program goals for the ECGIA kindergarten program is to provide for the development of physical coordination and body mastery. The literature concerning the physical growth of the young child defines body mastery skills as those areas of gross and fine motor development such as body image expansion, gross motor assimilation, and beginning fine motor skills. Research indicates that the increase of body mastery skills in the areas of gross and fine motor development will contribute to the furtherance of cognitive skills and serve as a foundation for later academic achievement.

In order to reduce the testing load on the teachers and students, the staff of the Early Childhood Curriculum and Evaluation Project in 1985 decided to explore the effectiveness of using a teacher observation inventory of physical coordination skills. This exploration lead to the creation of the Mississippi Physical Coordination Inventory (MPCI) in 1986 (Correro, Shaklee, Turner, Handley, Ruthven, & George, 1986).

A field test of the MPCI was conducted during the 1985-86 school year in seven randomly selected school districts in pilot kindergarten programs in the state. The information gained from the field testing of the MPCI yielded positive results about the effectiveness of the instrument for evaluation purposes. Therefore, the MPCI was administered as pre- and posttest measures during the 1986-87 school year and again in 1987-88.

Purpose of Current Study

The purpose of this phase of the evaluation of the Mississippi Kindergarten Program is to determine if the 1987-88 kindergarten students made significant progress toward the attainment of motor skills which have been identified as skills normally performed by 4-, 5-, & 6-year old children. Another purpose of this phase of evaluation is to determine if the program offered in Mississippi schools allowed for the enhancement in this area of growth in the five-year old. While it is generally accepted that children

develop physical coordination skills and body mastery in a given sequence, young children can vary considerably in physical development due to natural and environmental factors. Thus, the question is set forth, "Was an environment provided for the kindergarten child which included opportunities for the development of body mastery and physical coordination skills?"

Research Question to be Answered

Did the 1987-88 kindergarten students make significant progress toward the attainment of motor skills which have been identified as behaviors normally performed by 4-, 5-, and 6-year olds?

Data Sources

Twenty four school districts were randomly selected through the use of a random numbers table to administer the MPCI in October, 1987 and March, 1988. The sample included approximately 5,000 students. The districts selected were: Baldwyn Separate, Biloxi Separate, Forest Separate, Hattiesburg Separate, Hazlehurst Separate, Oxford Separate, Pontotoc Separate, Richton Separate, Calhoun County, Claiborne County, Copiah County, Harrison County, Itawamba County, Leflore County, Perry County, Union County, Bolivar Consolidated #4, Lumberton Line Consolidated, Quitman Consolidated, Sharkey-Issaquena Consolidated, Western Line Consolidated, Attala County, Winona Separate, and Water Valley Line Consolidated. Winona Separate declined from

participating.

Methods of Data Analysis

The Epistat statistical package yielded chi square values to determine whether or not a significant difference existed between the number of students obtaining mastery of physical coordination skills in each of the age groups from pretest to posttest.

The administrations of the MPCI during the 1987-88 school year of the Early Childhood Grant-In-Aid (ECGIA) program yielded descriptive information about the gender of the approximately 5,000 students. The data were summarized with the use of cross tabulation. The student population can be described as evenly distributed between males 51.8% and females 48.2%.

According to the MPCI evaluations, the children were classified as achieving mastery in three categories: age four skills, age five skills, and age six skills. Cumulative percentages located in Table 1 show 53.6% of the students mastered the four-year old items in October compared to 83.0% in March. There were 28.9% of the children mastering the five-year old items in October compared to 67.4% in March. In the six-year old items group, 15.7% of the students achieved mastery in October compared to 50.1% in March.

Table 1

Changes in Frequencies of Students in Four-, Five-, and Six-Year Old Skills in Physical Development from Pretest to Posttest in 1987-88

Group	Pretest N	Pretest %	Posttest N	Posttest %	df	x^2
Age Four Items	2829	53.6	4371	83.0	1	166.61*
Age Five Items	1524	28.9	3549	67.4	1	419.70*
Age Six Items	829	15.7	2637	50.1	1	504.86*

*$\leq$ .001

Results of the Study

Extent of Physical Coordination Gains

Results from the Epistat statistical package indicated that there was a significant difference in the number of students obtaining mastery of physical coordination skills in each of the age groups from pretest to posttest. The chi square value of age four items was 166.60. The chi square value of age five items was 419.70. The chi square value of age six items was 504.86. All chi square values were significant beyond the .001 level of significance.

Level of Students Increasing in Physical Coordination

These data show that the largest percentage of students are mastering the age four skills. Since physical coordination is considered to be a developmental process, it is accepted and recognized that children will proceed through the stages of growth in sequence and at different rates. Therefore, the varying percentages of children in Mississippi acquiring body mastery skills in each of the age groups are expected. Since the children were only five during the pretesting, the age six category was expected to have a very low mastery level (15.7%). As the students matured physically during their kindergarten year and the teachers encouraged age-appropriate activities, the students made the most gains on these age six skills.

Recommendations

Results of the 1987-88 MPCI evaluation show a

significant increase in the number of students obtaining mastery of physical coordination and body mastery skills in each of the age groups from pretest to posttest. Even though much of the gain may be attributed to the Halo effect and the maturation factor, the data also suggest that the Mississippi Kindergarten Program is structured around an atmosphere which provides for the development of physical coordination.

However, a stronger implication of the 1987-88 results is observable, especially when considered in conjunction with the 1986-87 report. Even though significant findings have been found for two years, many of Mississippi's young children cannot accomplish motor activities which are common to four-, five-, and six-year olds. Notice that in 1987-88, approximately 17.0% of the children could not master the four-year old skills, 32.6% did not master the five-year old skills, and 49.9% could not perform successfully the six-year old skills (Table 1). In 1986-87, 32.5% of the children could not master the skills identified as normal for four-year olds, 49.0% could not achieve the five-year old competencies, and 60.8% did not perform successfully the age six items (Table 2).

The percentages of children not mastering age-appropriate physical motor activities slightly decreased in 1987-88 from the 1986-87 year. This decline is expected. When skills are identified as being important, teachers are

Table 2

Changes in Frequencies of Students in Four-, Five-, and Six-Year Old Skills in Physical Development from Pretest to Posttest in 1986-87

Group	Pretest N	Pretest %	Posttest N	Posttest %	df	x^2
Age Four Items	2229	49.7	3153	67.5	1	79.56*
Age Five Items	1160	25.8	2381	51.0	1	215.91*
Age Six Items	584	13.0	1831	39.2	1	343.32*

*$\leq$ .001

more likely to incorporate them into daily planning. Therefore, since the development of physical coordination and body mastery is a Mississippi program goal that is being evaluated through an instrument which identifies specific skills to be achieved, teachers should concentrate on these objectives. If this goal is given further emphasis, the mastery levels of these motor skills would improve.

However, in summarizing the 1987-88 evaluation of physical coordination and body mastery, it is obvious that some attention is being given to the development of motor skills, but not enough. The percentages of children not mastering age-appropriate physical motor activities is still alarming. Therefore, the following recommendations are submitted:

1. Stronger messages from the Mississippi State Department of Education must be generated to the school districts on the importance of educating the whole child which includes physical development. These messages should be enforced through Mississippi Kindergarten Guidelines (1986) for kindergarten, accreditation standards, and technical assistance from the State Department of Education.
2. This message must mandate that the philosophy of Mississippi kindergarten be realigned with the original goals in order to relax on the current

academic push and concentrate on the child's total growth.

3. Technical assistance must be provided to the schools which transmit current research information about:
   a. the identification of motor behaviors appropriate for five-year olds.
   b. the large percentages of students in Mississippi kindergartens who cannot perform age-appropriate physical motor skills.
   c. the positive effects on students when their teachers participate in their physical development activities.
   d. the necessity for kindergarten teachers to plan daily for physical motor development just as they plan for language and mathematical experiences.
   e. the national physical fitness crisis among American children.
4. Continued appraisal and technical assistance must be provided to the Mississippi school districts in order to utilize the evaluative data gained thus far. Only through the application of this research knowledge can we make the kindergarten program a quality environment for 5- and 6-year olds.

Physical coordination skills provide the groundwork to future development. If they are not accomplished, the lack of such skills will impact on future academic and social experiences for the child. The staff of the Early Childhood Curriculum and Evaluation Project encourages a stronger emphasis on the development of physical coordination and body mastery skills during the coming year.

References

Bureau of School Improvement. (1986). Mississippi kindergarten guidelines. Jackson, MS: State Departemtn of Education.

Correro, G., Shaklee, B., Turner, J., Handley, H., Ruthven, J., & George, A. (1986). Mississippi physical coordination inventory (MPCI) (Technical Manual and Manual of Directions). Mississippi State, MS: MSU Printing Department.